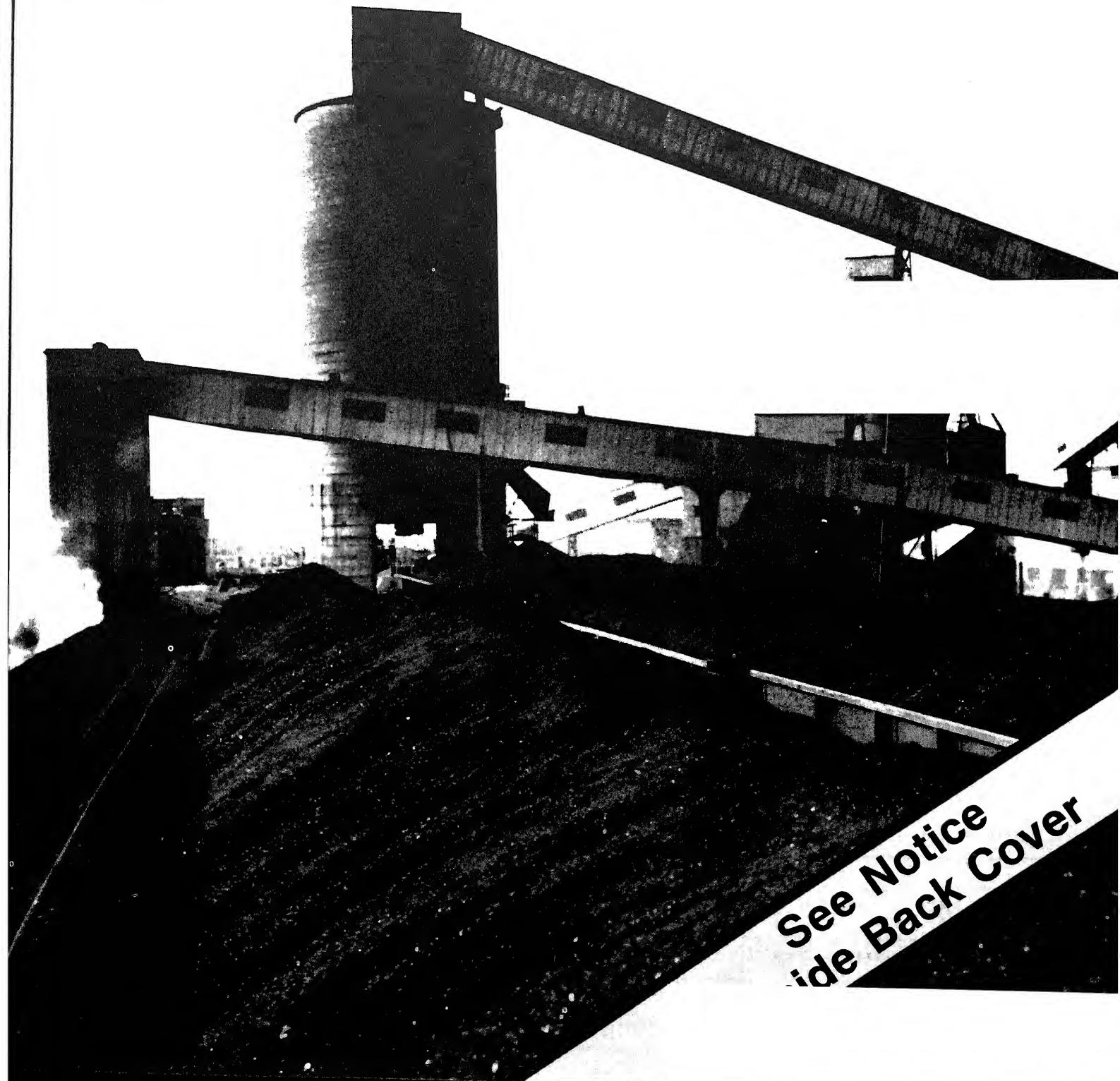DOE/EIA-0218 (86/35)
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Weekly Coal Production

Energy Information Administration
Washington, D C

The methodology for making weekly and monthly data estimates for this report is shown in this edition (see pages 4-7).

Production for Week Ended:
August 30, 1986

See Notice
ide Back Cover

Highlights

U.S. coal production in the week ended August 30, 1986, as estimated by the Energy Information Administration, totaled 17.14 million short tons (bituminous coal and lignite, 17.06 million short tons; Pennsylvania anthracite, .08 million short tons). This was 3.8 percent lower than in the previous week and was 2.3 percent lower than production in the corresponding week of 1985.

Cumulative U.S. coal production from January 1 through August 30, 1986, was estimated at 588.51 million short tons, 0.5 percent below the 591.53 million short tons produced in the comparable period in 1985.

The methodology used to make weekly estimates of coal production is published in this issue of Weekly Coal Production.
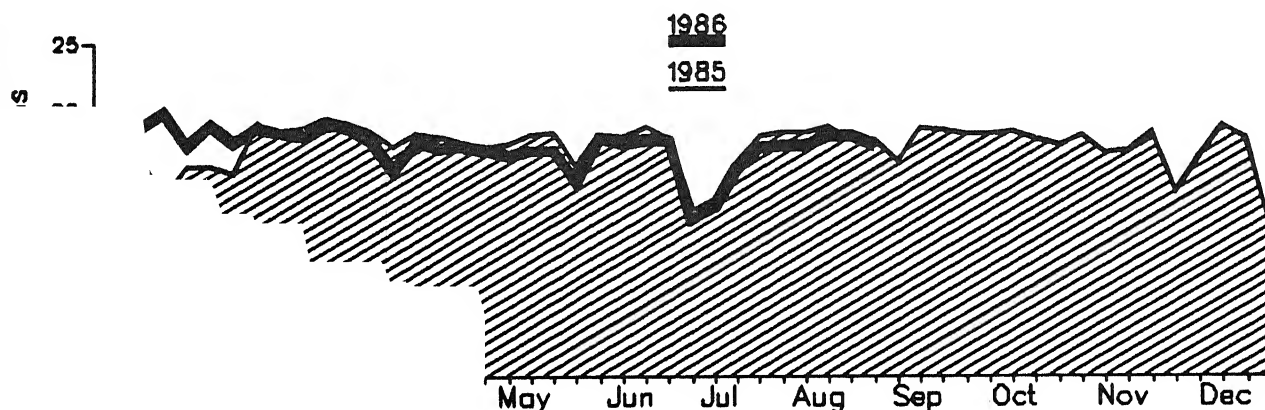
Figure 1. Coal Production

Table 1. Coal Production

Production and Carloadings	Week Ended			Year to Date Ended		
	08/30/86	08/23/86	08/31/85	08/30/86	08/31/85	Percent Change
Production (Thousand Short Tons)						
Bituminous[1] and Lignite	17,061	17,737	17,467	586,239	588,956	-0.5
Pennsylvania Anthracite	75	78	75	2,265	2,571	-11.9
U.S. Total	17,136	17,814	17,541	588,505	591,527	-.5
Railroad Cars Loaded	112,828	117,441	117,569	3,810,387	3,869,056	

[1]Includes subbituminous coal.
Note: 1985 and 1986 data are preliminary. Total may not equal sum of components because of independent rounding.
Sources: Association of American Railroads, Transportation Division, Weekly Statement CS-54A; Energy Information Administration, Form EIA-6, "Coal Distribution Report" and State mining agency coal production reports.

Table 2. Coal Production by State
(Thousand Short Tons)

Region and State	Week Ended		
	08/30/86	08/23/86	08/31/85
Bituminous Coal[1] and Lignite			
East of the Mississippi	11,023	11,566	11,175
Alabama	507	540	499
Illinois	1,057	1,124	1,112
Indiana	749	656	637
Kentucky	3,175	3,374	3,441
Kentucky, Eastern	2,526	2,684	2,656
Kentucky, Western	649	690	786
Maryland	51	59	70
Ohio	720	729	669
Pennsylvania Bituminous	1,492	1,341	1,201
Tennessee	138	151	148
Virginia	751	886	864
West Virginia	2,385	2,707	2,534
West of the Mississippi	6,038	6,171	6,292
Alaska	22	23	22
Arizona	200	208	197
Arkansas	(*)	(*)	1
Colorado	285	246	346
Iowa	9	10	11
Kansas	14	15	15
Louisiana	54	50	-
Missouri	92	97	83
Montana	582	605	642
New Mexico	489	463	416
North Dakota	480	491	471
Oklahoma	97	91	74
Texas	906	943	1,022
Utah	212	190	276
Washington	94	97	85
Wyoming	2,500	2,641	2,631
Bituminous[1] and Lignite Total	17,061	17,737	17,467
Pennsylvania Anthracite	75	78	75
U.S. Total	17,136	17,814	17,541

[1]Includes subbituminous coal.
(*)Value is less than 500 short tons.
Note: 1985 and 1986 data are preliminary. Total may not equal sum of components because of independent rounding.
Sources: Association of American Railroads, Transportation Division, Weekly Statement CS-54A; Energy Information Administration, Form EIA-6, "Coal Distribution Report" and State mining agency coal production reports.

Methodology

The methodology for making weekly, monthly, and quarterly estimates of coal production and monthly estimates of coal consumption and stocks is described here.

Production

Estimates of weekly coal production by State are published in this report. The EIA also publishes monthly estimates of total coal production in the *Monthly Energy Review* (DOE/EIA-0035) and quarterly production data by State in the *Quarterly Coal Report* (DOE/EIA-0121). Final coal production data for the year are published in the *Coal Production* annual report (DOE/EIA-0118).

Weekly Data

Estimates of national weekly coal production are based on weekly carload data collected by the Association of American Railroads (AAR) from its members (Class I Railroads) and certain other railroads. EIA calculates the average number of tons per carload for each railroad's coal car fleet from information obtained from the most recent Quarterly Freight Commodity Statistics filed by Class I Railroads with the Interstate Commerce Commission (ICC). The average number of tons per load is then multiplied by the number of cars to obtain an estimate of weekly production

total production is adjusted to take additional, more current information into consideration.

Once the U.S. weekly coal production estimate is determined, this total is split into two subtotals - the portion representing States with little or no rail coal shipments, and the portion representing the remaining States, where a significant percentage of production is shipped by rail. The States with little or no railroad coal shipments are Alaska, Arizona, Georgia (when producing), Kansas, Louisiana, Texas, and Washington. Excepting Louisiana, the weekly production data for each "non-rail" State are developed by multiplying the estimate of U.S. weekly coal production by the ratio of projected production for each State to U.S. total projected production, for the current quarter. The methodology used to project State coal production is given in the EIA publication *Model Documentation of the Short-Term Coal Analysis System* (DOE/EIA-0394). These States accounted for less than eight percent of total U.S. production in the first quarter, 1986. In Louisiana, the State's first commercial coal mine began operation in the third quarter of 1985. The EIA contacts this mine directly to obtain weekly production data.

Estimates for the remaining 20 States are in aggregate equal to the U.S. weekly coal production minus the estimated production from the non-rail States. Estimates for the "rail States" are based on the AAR carload data compiled by State of origin, including separate estimates for the anthracite and bituminous regions in Pennsylvania. To determine State of origin, EIA uses the Carload Waybill Statistics survey received annually from the Federal Railroad Administration (FRA), U.S. Department of Transportation, and supplementary information EIA obtains directly from the railroads. Separate production estimates for eastern and western Kentucky are obtained using the ratios of current quarterly projected production for each region to the State overall.

Each railroad's share of rail traffic originating in States it serves, according to the most recent FRA and EIA information, is applied to the current week's tonnage derived from system-wide carloading reports filed with AAR. The tonnages loaded by the various railroads are then summed by each State to determine total production shipped by AAR rail for that State. These tonnages are divided by the most recent ratio of annual AAR rail tonnage to total annual production for each

State. The resulting weekly coal production estimates for these 20 States are then adjusted to ensure that each State's production figure contributes proportionately to the weekly coal production estimate previously derived in aggregate for the rail States.

Monthly Data

Preliminary estimates of monthly coal production by State are obtained by summing weekly coal production estimates published in this report. If a week extends into a new month, the production is allocated by day, and the days are added to the month in which they occur. The allocation is Monday through Friday, 18.4 percent each day; Saturday, 8.0 percent; and Sunday, 0.0 percent.

Preliminary weekly and monthly production estimates are revised quarterly when quarterly production data become available. Preliminary weekly and monthly estimates are proportionately adjusted to conform to the quarterly production figure.

Quarterly Data

Estimates of quarterly coal production are based on data collected quarterly on Form EIA-6, with certain adjustments. The national estimate of quarterly coal production as reported on Form EIA-6 is increased by 1 percent to derive the quarterly U.S. coal production total. This 1 percent increase is entirely assigned to the Appalachian region, giving an adjusted total for this region. The adjustment is applied because production reported on Form EIA-6 has consistently been 1 percent below the final U.S. coal production level, with most of this tonnage attributed to eastern Kentucky in the Appalachian region. Quarterly State production figures are determined as follows:

Appalachian Region. Quarterly production for the Appalachian Region States is equated to the production reported on Form EIA-6 for the Appalachian Region (i.e., Coal-Producing Districts 1-4, 6-8, 13, 24) plus 1 percent of the U.S. total production as reported on Form EIA-6. Quarterly production in Georgia, Ohio, and Pennsylvania (anthracite only) can be identified from Form EIA-6 reports. Quarterly coal production in Alabama is obtained from that State's mining agency. Initial estimates of monthly production in Alabama, Georgia, Pennsylvania (anthracite), and Ohio are adjusted to conform to these new quarterly production levels. Quarterly production in Maryland and West Virginia are derived from monthly State coal production reports. Initial monthly estimates of production in Maryland and West Virginia are revised to conform to monthly reports of production from mining agencies in these States.

Quarterly production for Pennsylvania (bituminous) is derived from the total production reported on Form EIA-6 for Coal-Producing Districts 1 and 2. Subtract-

ed from this sum are: the quarterly production for Maryland (from the monthly State reports) and a quarterly production figure for Grant, Mineral and Tucker Counties in West Virginia (estimated as one-fourth of the most recent annual production for these three counties).

Because production in eastern Kentucky, Tennessee, and Virginia cannot be determined from Form EIA-6 and is not available from mining agencies in these States, initial estimates of quarterly production are not revised except for eastern Kentucky. Quarterly coal production for eastern Kentucky is equated to the adjusted total for the Appalachian Region minus the revised quarterly production totals for the other States in the Region.

Interior Region. Quarterly production for the Interior Region States is equated to the production reported on Form EIA-6 for the Interior Region (i.e., Coal-Producing Districts 5, 9-12, 14, and 15). Quarterly coal production in Illinois, Indiana, Iowa, western Kentucky, and Texas can be identified from Form EIA-6 reports. Initial estimates of monthly production in these States are adjusted to conform to these quarterly levels. Production data for Arkansas, Kansas, Missouri, and Oklahoma are not available from Form EIA-6 or from State mining agencies; hence, initial estimates of quarterly production are not revised for Arkansas, Kansas, and Missouri. In Louisiana, the State's only coal mine began operations in the third quarter of 1985. The EIA contacts this mine to obtain a production number. Oklahoma quarterly production is equated to the total for the Interior Region minus the sum of the revised quarterly production figures for the other States in the Region.

Western Region. Quarterly production for the Western Region States is equated to the production reported on Form EIA-6 for the Western Region (i.e., Coal-Producing Districts 16-23). Quarterly production in all States can be identified from Form EIA-6 reports. Initial estimates of monthly production in Alaska, Arizona, Colorado, Montana, New Mexico, North Dakota, Utah, Washington, and Wyoming are adjusted to conform to the quarterly production as reported on Form EIA-6.

The quarterly production data, although published throughout the year, are considered preliminary until EIA annual production data are finalized in September of the following year. At that time quarterly production data are revised (proportionately adjusted) to conform to the final annual production figures.

Finalizing of Annual Production

Preliminary total annual U.S. coal production, as reported in the *Weekly Coal Production* report in the first week in January of the following year, is the sum of revised monthly/quarterly estimates of production for the first 9 months (first three quarters) and preliminary

estimates of production derived from weekly estimates during the fourth quarter. When production data for the fourth quarter of the year become available from Form EIA-6 in March of the following year, the preliminary fourth-quarter U.S. total production figure and the preliminary State-level corresponding production figures may or may not be revised, depending on the size of the difference between the estimates and fourth-quarter data. EIA attempts to limit revisions to the initial annual production estimates (determined initially in January of the following year) until production data are finalized in September of the following year. In some cases, quarterly, monthly, or weekly estimates may be revised without revisions to U.S. total estimates, based on available monthly or quarterly State coal production reports.

Weekly, monthly, and quarterly State and national production data are adjusted to conform to finalized annual production figures in September of the following year.

Consumption

Monthly Data

EIA publishes monthly estimates of coal consumption in the *Monthly Energy Review* (DOE/EIA-0035) and in this report.

Monthly coal consumption at *electric utility plants* is derived directly from Form EIA-759.

Prior to 1980, monthly coal consumption at *coke plants* was derived directly from Form EIA-5. For 1980 and subsequent years, it is derived from the quarterly coal consumption reported on Form EIA-5, using the ratios of monthly to quarterly consumption in 1979, the last year that *coke plant* data were collected monthly on Form EIA-5. These ratios by month (January-December) are 0.3377, 0.3200, 0.3423; 0.3529, 0.3462, 0.3009; 0.3364, 0.3347, 0.3289; and 0.3273, 0.3301, 0.3426.

Prior to 1978, coal consumption for the *other industrial plants* sector (i.e., industrial users minus coke plants) was derived by using monthly data reported on Form EIA-3 to modify baseline coal consumption figures from the most recent Census of Manufactures or Annual Survey of Manufactures, Bureau of the Census, U.S. Department of Commerce. For 1978 and subsequent years, data from Forms EIA-3 and EIA-6 are used to compute monthly coal consumption for the *other industrial plants* sector.

Starting with quarterly consumption (C) for the *other industrial plants* sector, the monthly consumption for the sector (Cm) is estimated for each month in the quarter as $Cm = (Cm3/C3) \times C$ where Cm3/C3 is the ratio of monthly to quarterly coal consumption as re-

ported on Form EIA-3. For the 1978 coal consumpti figures, the ratios used are based on 1978 EIA-3 da For 1979 and subsequent years, the ratios used a based on the 1979 EIA-3 data. These 1979 ratios month (January-December) are 0.3593, 0.3264, 0.31 0.3485, 0.3332, 0.3183; 0.3317, 0.3407, 0.3276; a 0.3045, 0.3253, 0.3702.

Prior to 1980, monthly coal consumption for the *r dential and commercial* sector was derived by usi monthly data reported on Form EIA-2, "Monthly C Report - Retail Dealers and Upper Lake Docks," modify baseline coal consumption figures develop by the Bureau of Mines, U.S. Department of the Inte or.

For 1980, the quarterly coal consumption figures in *residential and commercial* sector were converted monthly coal consumption figures using the ratios monthly to quarterly coal deliveries to this sector 1979 as reported on Form EIA-2. These 1979 ratios month (January-December) are 0.4002, 0.3502, 0.24 0.4805, 0.2901, 0.2294; 0.3126, 0.2952, 0.3922; a 0.2931, 0.3101, 0.3968. The 1981 and 1982 monthly c consumption figures were derived using the 1979 rat but were also modified according to heating/cooli degree-days. For 1983 and subsequent years, coal c sumption figures are converted to monthly coal c sumption figures using only the ratios of monthly quarterly coal deliveries to this sector in 1979.

Quarterly Data

Coal consumption data are derived for each end-1 sector as follows:

Electric Utilities. Consumption is reported on Fo EIA-759.

Coke Plants. Consumption is reported on Form EIA

Other Industrial Plants. In deriving a quarterly estim for coal consumption for the *other industrial pla* sector, the first step is to equate consumption to beg ning stocks plus receipts minus ending stocks. In ter of an equation, consumption can be expressed as C Sb + R - Se, where Sb = beginning stocks, R receipts, and Se = ending stocks.

From the above equation, consumption is C = (S Se (change in stocks)) + R. The receipts (R) in t equation are derived at the State level by compari receipts at *other industrial plants,* as reported on Fo EIA-3, with shipments to the *other industrial pla* sector (which includes the *transportation* sector) as ported on Form EIA-6, and selecting the larger val Next, stock change at the State level is equated to ' stock change for that State as reported on Form EIA and a computed consumption is derived using the eq tion above for each State. Finally, the quarterly c sumption (C) at the State level is equated to the ma mum of the computed consumption at the State le

as described above and the quarterly consumption for that State as reported on Form EIA-3. This process ensures that State-level consumption for the *other industrial plants* sector is always greater than or equal to the *manufacturing* sector consumption for that State. Total quarterly consumption for the *other industrial plants* sector is computed by summing the quarterly State-level consumption figures.

Residential and Commercial. Shipments to the *residential and commercial* sector as reported on Form EIA-6 are defined as consumption as well as receipts for this end-use sector.

Stocks

Monthly Data

EIA publishes monthly estimates of coal stocks in the *Monthly Energy Review* (DOE/EIA-0035) and in this report.

Coal stocks at *electric utility plants* are derived directly from Form EIA-759.

Prior to 1980, coal stocks at *coke plants* were derived directly from Form EIA-5. for 1980 and subsequent years, the stock level at the end of the first month of a quarter is derived as ending stocks for the previous quarter plus (minus) one-third of the current quarterly stock increase (decrease), as reported on the Form EIA-5. The stock level at the end of the second month is equal to the stock level at the end of the first month plus (minus) one-third of the current quarterly stock increase (decrease). The stock level at the end of the third month is equal to the stock level at the end of the current quarter.

Prior to 1978, coal stocks for the *other industrial plant* sector (i.e., industrial users minus coke plants) were derived by using monthly data reported on Form EIA-3, to modify baseline coal stock figures from a one-time survey of coal consumers by the Bureau of the Mines, U.S. Department of the Interior. For 1978 and subsequent years, the data source for stocks in the *other industrial plants* sector is Form EIA-3. Quarterly stock changes in the period 1978-1982 were judgmentally apportioned by month, based on seasonal influences on supply and demand for coal in steam-coal markets. For 1983 and subsequent years, quarterly stock changes reported on Form EIA-3 are apportioned by month in the same manner as described for coke plants in the preceding paragraph.

Monthly *producer and distributor* stocks are estimated by using one-third of the current quarterly change reported on Form EIA-6 to indicate the monthly change in stocks.

Quarterly Data

Coal stocks are derived for each end-use sector as follows:

Electric Utilities. Stocks are reported on Form EIA-759.

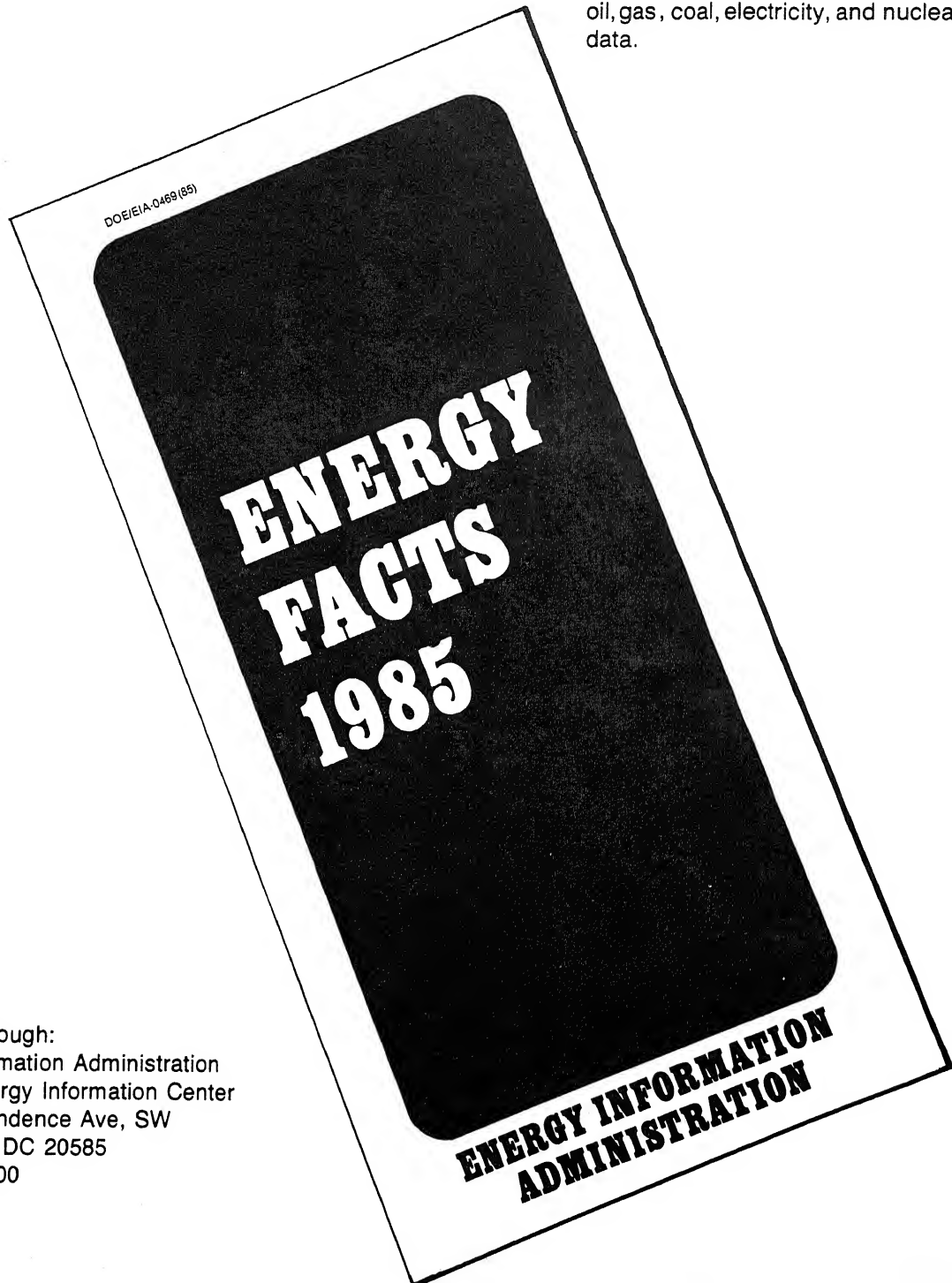*Coke Plants.* Stocks are reported on Form EIA-5.

Other Industrial Plants. Stocks are reported on Form EIA-3, i.e., stocks at *manufacturing* plants only.

Residential and Commercial. Data are not available.

Producer and Distributor. Stocks are reported on Form EIA-6.

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